

## Subord. vi. TELLINACEA.

- Fam. 39. Scrobiculariidae.  
 40. Tellinidae.  
 41. Donacidae.  
 42. Cardiliidae.  
 43. Mesodesmatidae.  
 44. Mactridae (excepting  
*Lutraria*).

## Subord. vii. SUBMYTILACEA.

- Fam. 45. Galeomnidae.  
 46. Erycinidae (excepting  
*Montacuta*).  
 47. Kellyellidae.  
 48. Crassatellidae.  
 49. Tancrediidae.  
 50. Unicardiidae.  
 51. Ungulinidae.  
 52. Lucinidae (including  
*Montacuta*).  
 53. Astartidae.  
 54. Carditidae.  
 55. Cardiniidae.  
 56. Ætheriidae.  
 57. Unionidae.  
 58. *Dreissensidae*.  
 59. Modiolopsidae.

Order III. PSEUDOLA-  
MELLIBRANCHIATA.

## Fam. 60. Ostreidae.

61. Aviculidae.  
 62. Prasinidae.

63. Pectinidae.  
 64. Limidae.  
 65. Spondylidae.  
 66. Dimyidae.

## Order IV. FILIBRANCHIATA.

Fam. 67. Mytilidae (excepting  
*Dreissensia* and *Dreissensiomya*).

68. Trigonidae.

## 69. Arcidae.

70. Anomiidae.

## Order V. PROTOBRANCHIATA.

## Fam. 71. Solenomyidae.

## 72. Nuculidae.

XXI.—Notes on *Apteryx* Haasti.

To the Editors of the 'Annals and Magazine of  
 Natural History.'

GENTLEMEN,—In the last number of the 'Annals,' page 43, I observe an article on *Apteryx Haasti*, Potts, by the Hon. Walter Rothschild. "Mr. Forbes," it affirms, "has expressed it as his opinion that *Apteryx Haastii* is a natural hybrid between *A. australis* and *A. Owenii*. I have paid much attention to this question as well as to the study of this genus generally," &c.

I am not sure whether or not I am the "Mr. Forbes" referred to; but as I am led to believe that I am, I hope you will grant me the privilege of making a few observations on Mr. Rothschild's note. I am surprised, in the first place, to have opinions that I privately entertain publicly criticized; for, so far as I can charge my memory, I am not aware of having

ever committed to print my opinions upon the species of *Apteryx*. I should be glad, therefore, if Mr. Rothschild will be so kind as to give me a reference to the publication in which I have made the statement that *Apteryx Haasti* "is a natural hybrid of *A. australis* and *A. Owenii*." Having had charge, however, of the type specimens of *A. Haasti* for some years, I naturally made a somewhat careful examination of them; and the opinion I formed then I still retain, that *A. Haasti* is most probably a natural hybrid between the two above-named species. This, however, is, I believe, the first occasion on which I have expressed *in writing* this opinion. The type specimens of this bird in the Canterbury Museum were obtained on the west coast of the South Island, and from the region in which *A. australis* and *A. Owenii* both abound. I am therefore again surprised to read Mr. Rothschild's affirmation that *Apteryx Haasti* is known only from the North Island, as on page 330 of his 'Birds of New Zealand' (2nd ed. vol. ii.) Sir Walter Buller has the following remark in reference to these very specimens:—"These [specimens of *A. Haasti*] were obtained on the high ranges above Okarita, on the west coast of the South Island, where, according to the resident natives, the large Grey Kiwi is tolerably common." Mr. Rothschild bases his belief in the distinctness of *A. Haasti* as a good and pure species on its geographical distribution, on the size of the bird and the length of its beak, and on variations in its cæcum. As I have shown, the inference from its distribution signally fails. It is well known, too, that the various species of *Apteryx* vary greatly in size. In the Canterbury Museum, N. Z., there is a very large specimen of *A. australis*, nearly equalling the *Apteryx maxima* belonging to Mr. Rothschild, as I remarked to one or two of my friends at the recent meeting of the Zoological Society at which it was exhibited. Before leaving New Zealand I had also, through the kindness of Mr. A. Hamilton, of the Otago University, Dunedin, an opportunity of examining a large collection of *Apteryx* crania (both *australis* and *Owenii*) discovered in one of the limestone caves of Otago, and was particularly struck by the great variability in length and strength of the beaks, some being remarkably long. I hope Mr. Hamilton will ere long favour ornithologists with a description of these remains. In regard to the variations observable in the cæcum, does not their divergence in the two sexes of *A. Haasti* afford a presumption *in favour* of hybridity? If it were a true species, should we not look for a close agreement between the internal anatomy of the male and female?

Further, Mr. Rothschild states that the native name for

*Apteryx Haasti* is "Ro-a-Roa" and it is not known by the name of "Kiwi." The name "Ro-a-Roa," however, is applied to several species of *Apteryx*, and specially to *Apteryx maxima* of Stewart Island. I would, however, again refer Mr. Rothschild to Sir Walter Buller's second volume, p. 330, where he will find that the native names for the *South-Island* types in Christchurch, N. Z., are both "Ro-a" and "Ro-a-Roa" as well as "Kiwi Karuai."

To the best of my knowledge *Apteryx Haasti* has hitherto been found *only* in the *South Island*, and in that district alone in which *Apteryx australis* and *A. Oweni* both occur, which so far seemed very significant. Its occurrence in the North Island is to me a new and most interesting fact, and, if substantiated, would certainly go far to upsetting the opinion I at present hold that *Apteryx Haasti* is a hybrid. Is Mr. Rothschild quite certain of the localities of his specimens and of the accuracy and *bona fides* of his collector? I shall look forward with much interest to learn the actual localities whence have come his specimens, also if the young specimens of *A. Haasti* which Mr. Rothschild has had alive at Tring were reared by him, or if he has had eggs from a pair of these birds when confined by themselves. Does *Apteryx Haasti* occur in the localities in which *A. Bulleri* (= *A. Mantelli*) is found? Or can Mr. Rothschild himself have mistaken large west-coast specimens of *A. Oweni* for *A. Haasti*?

HENRY O. FORBES.

1 Philbeach Gardens,  
Jan. 6, 1893.

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XXII.—*Natural History Notes from H.M. Indian Marine Survey Steamer 'Investigator,' Commander R. F. Hoskyn, R.N., commanding.*—Series II., No. 1. *On the Results of Deep-sea Dredging during the Season 1890–91.* By J. WOOD-MASON, Superintendent of the Indian Museum, and Professor of Comparative Anatomy in the Medical College of Bengal, and A. ALCOCK, M.B., Surgeon I.M.S., Surgeon-Naturalist to the Survey.

[Continued from vol. ix. p. 370.]

[Plates X. & XI.]

Family PASIPHAÏDÆ.

PASIPHAÏ, Savigny.

52. *Pasiphaë sivado* (Risso).

*Pasiphaë sivado*, Savignyi, et *brevirostris*, Milne-Edwards, Hist. nat. des Crust. vol. ii., 1837, p. 426, et Atlas du Règne Anim. de Cuvier.